UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,160	05/16/2007	Peter Symons	**JM-0003	5608

23377 7590 12/10/2009

WOODCOCK WASHBURN LLP
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER	
HSIEH, PING Y	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
12/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,160	SYMONS ET AL.	
	Examiner	Art Unit	
	PING Y. HSIEH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22 and 26-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22 and 26-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/12/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 41 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 22, 31, 33, 34, and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zax (U.S. PG-PUB NO. 2004/0204199) in view of Krenz (U.S. PATENT NO. 5,508,709) and further in view of Ono (U.S. PATENT NO. 7,162,209).

-Regarding claims 22, 42 and 43, Zax discloses an apparatus **(handheld communication device 400, fig. 4)** comprising first **(flip portion 16, fig. 4)** and second **(base portion 12, fig. 4)** components having respective first **(hinge hub 416, fig. 4)** and second **(knuckle 408, fig. 4)** mechanical coupling elements that cooperate to allow relative movement of the first and second components **(as disclosed in paragraph 38)**, the first mechanical coupling element comprising a recess formed therein **(circular opening 430, fig. 4)** and the second mechanical coupling element comprising a projection adapted to be movably fitted in the recess **(protruding ring 414, fig. 4)**. Zax further suggests a suitable connector 208 for communicating between the two components as disclosed in paragraph 23. However, Zax fails to specifically disclose the first mechanical coupling element comprises a first conductive plate positioned in the recess and the second mechanical coupling element comprises a second conductive plate positioned on the projection, and the second conductive plate is configured to wirelessly couple a signal from one of the first and second components to the other of the first and second components.

Krenz discloses a first mechanical coupling element comprises a first conductive plate and the second mechanical coupling element comprises a second conductive plate **(coupling device 108 as disclosed in fig. 1 and**

further disclosed in col. 2 lines 46-54), and the second conductive plate is configured to wirelessly couple a signal from one of the first and second components to the other of the first and second components **(as shown in fig. 4 and further disclosed in col. 2 lines 50-54)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the connector of Zax to include the features as disclosed by Krenz. One is motivated as such in order to provide wireless signal coupling in order reduce the wear out of the mechanical signal coupler.

However, the combination of Zax and Krenz fails to specifically disclose the first conductive plate having a first continuous surface extending diametrically across the first conductive plate, the second conductive plate having a second continuous surface extending diametrically across the second conductive plate, and the first continuous surface is positioned substantially parallel to the second continuous surface.

Ono discloses the first conductive plate having a first continuous surface extending diametrically across the first conductive plate, the second conductive plate having a second continuous surface extending diametrically across the second conductive plate **(surfaces of elements 5 and 7 which they face each other as shown in fig. 10)**, and the first continuous surface is positioned substantially parallel to the second continuous surface **(as disclosed in fig. 10 and col. 5 lines 21-28)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the hinge of Zax and Krenz to include the features as disclosed by Ono. One is motivated as such in order to provide an electronic device or foldable cellular phone formed by foldably connecting two casings, which can be assembled easily, perform communication reliably, cope with a large communication amount, and always make electrical connection regardless of the folded state of the casings, so downsizing and cost reduction can be realized.

-Regarding claim 26, the combination further discloses at least one of the first and second components has a data provider to communicate data to the other of the first and second components via the wireless coupling provided by the first and second couplers **(Ono, as disclosed in fig. 10-13 and further disclosed in col. 5 lines 3-20)**.

-Regarding claim 31, the combination further discloses the signal couplers comprise electrical signal couplers providing an inductive wireless coupling **(Krenz, as disclosed in col. 1 lines 30-32)**.

-Regarding claim 33, the combination further discloses the first and second mechanical coupling elements define a rotatable coupling **(Krenz, as shown in fig. 1)**.

-Regarding claim 34, the combination further discloses the first and second mechanical coupling elements provide coaxial parts of a hinge **(Krenz, as shown in fig. 1)**.

-Regarding claim 41, the combination further discloses the apparatus is a portable device **(Krenz, portable cellular radiotelephone 100, fig. 1)**.

Claims 27-30, 32 and 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zax (U.S. PG-PUB NO. 2004/0204199) in view of Krenz (U.S. PATNENT NO. 5,508,709), Ono (U.S. PATENT NO. 7,162,209) and further in view of Takeda et al. (U.S. PATENT NO. 6,792,246).

-Regarding claim 27, the combination of Zax, Krenz and Ono further discloses at least one of the first and second components has a signal supplier coupled to the signal coupler to supply a signal to be coupled to the other of the first and second components via the wireless coupling **(Ono, as disclosed in fig. 10-13 and further disclosed in col. 5 lines 3-20)**. However, the combination fails to specifically disclose at least one of the first and second components is arranged to communicate data to the other by modulating that signal.

Takeda et al. disclose at least one of the first and second components is arranged to communicate data to the other by modulating that signal **(as disclosed in fig. 9)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the wireless coupling of Zax, Krenz and Ono to

communicate data by modulating the signal. One is motivated as such in order to use the signal to convey a message.

-Regarding claims 28 and 29, the combination further discloses at least one of the first and second components has a power deriver operable to derive a power supply for that component from a signal coupled to that component from the other component via the wireless coupling **(Takeda et al., rectifying smoothing circuit 31, fig. 9)**.

-Regarding claim 30, although the combination does not specifically disclose a charge storer, the examiner takes official notice that a charge storer was well known in the art and would have been obvious to one of ordinary skill in the art at the time of the invention to implement in mobile device. One is motivated as such in order to provide a back up power source.

-Regarding claim 32, the combination further discloses the degree of coupling between the signal couplers varies with the relative positions and/or orientations of the first and second components and a determiner is provided to determine the degree of coupling to determine information relating to the relative positions and/or orientations of the first and second components **(Takeda et al., the operation state or contained state can be detected using the received signal through the signal noncontact connectors 11-13 and the signal couplers of the first and second components are separated by 90 degrees as disclosed in fig. 11A & 11B and further disclosed in col. 8 lines 1-27)**.

-Regarding claims 35 and 36, although the combination does not specifically disclose the first and second mechanical coupling elements define a ball and socket arrangement or provide a sliding mechanical, it is obvious that the selection of different types of mechanical coupling is a design choice and does not have to be identical.

-Regarding claim 37, the combination further discloses the relative positions and/orientations of the first and second components are fixed once the mechanical coupling is made **(Takeda et al., the operation state or contained state as disclosed in fig. 1, 2, 11A & 11B)**.

-Regarding claim 38, the combination further discloses the first and second components are sub-systems or sub-assemblies **(Takeda et al., element 2, fig. 1 and element 3, fig. 1 are sub-systems of element 1, fig. 1)**.

-Regarding claim 39, the combination further discloses the second component is a display device **(Takeda et al., display 5, fig. 1)**.

-Regarding claim 40, although the combination does not specifically disclose the camera 3 is a video camera, the examiner takes official notice that a video camera was well known in the art and would have been obvious to one of ordinary skill in the art at the time of the invention to implement in mobile device. One is motivated as such in order to capture subjects of interest in motion.

Response to Arguments

Applicant's arguments with respect to claims 22 and 26-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday~Thursday 8am ~ 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Y. H./
Examiner, Art Unit 2618

/Lana N. Le/
Primary Examiner, Art Unit 2614